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Atari Online News, Etc.
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Dana P. Jacobson, Publisher/Managing Editor
Joseph Miranda, Managing Editor
Rob Mahlert, Associate Editor

Atari Online News, Etc. Staff

Dana P. Jacobson -- Editor
Joe Miranda -- "People Are Talking"
Michael Burkley -- "Unabashed Atariophile"
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->From the Editor's Keyboard
"~~~~~"

"Saying it like it is!"

My brief bout with self-pity is over - so whatever shots Joe has taken at me this week don't matter! <grin> Age is a state of mind, with a few aches and pains added-in for good measure. I feel great!

Well, summer is officially over - it seems like it just flew by! It seems like yesterday that I was getting ready for it and now I'm putting most of that stuff away for the season. The good part of all this is that I can leave my windows open and enjoy some natural cool air, leaving those heat waves behind without a regret! We're getting some occasional much-needed rain; and I can save some money on my water bill! Autumn is one of my favorite seasons (Halloween and Thanksgiving!), and Spring is only six months away!

I don't have a lot to say this week - it's been a long one. Work has been hectic - typical of the post-summer season for healthcare. Busier and busier, with the stress to go along with it. It doesn't surprise me. We all just have to keep plugging along and hope things steady themselves. Let's get right to this week's issue!

Until next time...

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PEOPLE ARE TALKING
compiled by Joe Mirando
joe@atarinews.org

Hidi ho friends and neighbors. It's been another long week for me. I know I'm not alone in this, because everyone I mention it to has the same story. It's 'more work and less time to do it in' for a lot of us. Hey, weren't computers supposed to make things EASIER??

I'd like to take a minute to thank the people who wrote to tell me that they liked the idea of SETI@home, and that they were considering joining up with TEAM ATARI... although none of them have yet.

It's always amazed me that, in a place in time where technology and

science have such an impact on our lives, most people would feel more at home in the dark ages. I listen in mute amazement when, while at a local eatery or whatever, I happen to overhear people talking about technology "killing us" or being "out of control".

I've got news for you, dark-ages people. It's not technology that's out of control, but your poor use of it. When Galileo or Kepler or Newton or Foucault made a ground-breaking discovery, they didn't go for the "money shot" and create a new toy for kids or a new convenience that ended up being inconvenient. Of course, "Mutant Psycho Transvestite Ninja" video games were a bit out of Galileo's reach, but Foucault could have made a spiffy desk ornament out of a pendulum instead of astounding the world by using it to prove that the earth actually rotated on its axis.

The long and short of it is that, today, we take science and technology for granted. Advances have become familiar, and as you've heard a thousand (well, maybe a hundred) times before, familiarity breeds contempt.

Let's just hope that we find a balance before that pendulum swings back the other way.

Now let's get to the news and stuff from the UseNet.

From the comp.sys.atari.st NewsGroup
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Claude Bourgoïn asks about an IDE drive for his Falcon:

"I just got a new Fujitsu 2.16GB IDE drive for my Falcon030. I partitioned the drive using HD Driver 7, installed HD Driver on the C partition of the IDE Drive. But I cannot get it to autoboot from the hard drive. The drive will boot if I use a floppy disc with an auto folder that contains the HD Driver program.

Does anyone out there know how to get this IDE drive to auto boot? The old IDE drive that I replaced would auto boot."

Dr. Uwe Seimet, author of HD Driver tells Claude:

"This should work. Ensure that you did *not* change any of the IDE boot settings with HDDRUTIL. If it does not work without any special settings try to change these settings as explained in the HDDRIVER manual."

Jim DeClercq asks about SCSI drives under MiNT:

"I have an external HD I am trying to install MiNT on. It is the first in my SCSI chain, which includes one tape backup unit, two zip drives, one scanner, and a CDRom. The later things all work.

I can format and partition that external drive. I can write a MiNT filesystem to it, and can use a fdck program to tell it is there, but TOS cannot find it. Error -34.

Atari TT030, HDDriver 8. I had a smaller drive in that external box, and that did not have this problem. But it was too small for what I wanted to do. This one is a HP 1.2 gig."

Uwe Seimet tells Jim:

"So it works with MiNT, but not without it? Check the partition sizes.

Without MiNT or MagiC the maximum partition size for TOS 3.0x is 512 MB."

Jim tells Uwe:

"No, this is with MiNT running. My drive k: is unreadable from the desktop with MiNT running. It is also unreadable from the desktop without MiNT running because it is too big, and also because it is a LNX partition. That I was expecting.

Everything else on my SCSI chain works under MiNT or not under MiNT, and everything on my SCSI chain is downstream from the drive in question. That would seem to rule out a termination problem.

Freemint 1.15.12, MiTNP030 running as mintnp.prg.

Have not tried making a smaller partition, to see what happens without MiNT running. Have not tried any other kernel, either.

Is there something about a drive or its jumpers that can cause this? There is no available documentation on this drive. It was made by one of the divisions of HP that no longer exists. And when they stopped existing, nobody saved copies of documentation. Nobody put a copy in their library.

In short, can one jumper a drive, any drive, to make it act like this?

Or, when the TOS desktop, or Thing, (same results) gets a double click to open a drive, what SCSI commands go to the drive from HDDriver? And what response is expected? Command numbers are OK, I can look up the rest. "

Uwe replies:

"I don't know this by heart and it depends a bit on the drive. Just check the commands for another drive. You can expect a similar sequence. But I don't think checks on this level make any sense. Since you were able to partition the drive (HDDRUTIL displays the correct drive and partition data, doesn't it?) it's clear that nothing is wrong on such a low level.

My guess is that it has something to do with the fact that it is a Linux partition and the MiNT filesystem driver for Linux partitions."

Johann-Wilhelm Arndt reminds Jim:

"Have you all partitions, specially the TOS partitions, made active with NEWFATFS in mint.cnf? The TOS partitions are not found, when they are not active with NEWFATFS."

Brian Roland asks Jim:

"How many partitions are set up?

How exactly did you partition them in the very beginning...before writing a 'MiNT' file system?

What kind of 'MiNT' file system are you trying to install, is this an EXT2, Minix, or RAW partition type?

The desk top is NOT going to see any of these partitions if:

1. Minix (MIX, MNX, RAW) or EXT2 (LNX, \$83, EXT, RAW) partitions will not

be accessible AT ALL unless MiNT is running and you have the proper XFS module in the MINT/MULTITOS folder, or, if it's a MINIX partition and upon set-up minix.ttp was told to hide the partition from the normal TOS desktop. In such cases you will have to go through DriveU for access. Some versions of the minix.ttp/ext2.ttp offer a flag that hides the partition from the desktop while still reserving the drive letter. This is so access that is not minix/ext2 aware will not accidentally take out data on the partition. There once was a time it was a very good idea to use this feature of the formatter, and many of the scripted MiNT installs such as KGMD and KEMD did it by default.

2. If it is either MIX or LNX partition and you do not have the proper XFS module in the MINT or MULTITOS folder. Do be aware that some modules are very picky about which version of the kernel you are running, and how all of your directories, file locks, temp directories, and permissions are set up.

3. HDDriver doesn't try to hook any unrecognized partition type into the GEM desktop...but being XHDI compliant, another OS on your Atari can often still see, and sometimes even properly use the partitions even if they don't seem to exist on your desk top. To force HD driver to properly tie any partition type that it does not directly support into the system you should study the partition type dialog. HDDriver likes to know partition types so it can provide proper information to any part of the system that might need them...even if HDDRIVER doesn't directly support the partition type, it still likes the correct information so that software that does support it can correctly converse with the SCSI Drivers! HDDriver is really good at setting things up by itself provided all the standards and rules have been followed...however, the rules aren't always clear or don't always get followed...so you must give HDDriver a helping hand.

a. Open HDDRIVER Configure Utility and pull down the "HARD DISK/CHANGE PARTITION TYPE" dialogue. Don't change anything for now! Just see if your 'MiNT' partition is registered as LNX, MNX, MIX, RAW, or otherwise, then cancel out of the dialogue. If no partition types show at all then we've a problem and most likely should repartition the entire drive...see my last comment in this post if this is the case.

b. Pull down the "SETTINGS/PARTITION TYPES" dialogue. Make sure any of the partition types you'll need have an X ticked beside them. If your 'MiNT' partition type was listed as RAW or otherwise not listed (I.E. MNX instead of MIX), then you should enter it into one of the partition type blanks provided, or...if for instance, it registered as MNX but you are positive it is an Atari minix partition, you can go back to the change partition type dialog and change it to MIX. The same is true for EXT2 partition types...if you are positive it is Atari EXT2 then the partition type can be changed to LNX. If you aren't 'sure' just add it to one of the blanks and it should still work okay.

> Atari TT030, HDDriver 8. I had a smaller drive in that external box, and
> that did not have this problem. But it was too small for what I wanted to
> do. This one is a HP 1.2 gig.

The drive size should be no problem...

I don't own a single drive under 2 gig anymore and they all work fine with HD Driver on my Falcon030. Of course one can run out of drive letters pretty fast with several big drives connected and lots of partitions. In such cases, simply disable unneeded drives/partitions for your session.

My usual Falcon 030 disk array is set up as follows:

IBM 20gig IDE, 10 lgig BGM partitions, and 1 10 gig LNX partition.
Seagate SCSI II 2.1 gig with 3 partitions around 600meg apiece.
Seagate SCSI II 1.2 gig with 1 GEM/DOS partition.

At times I've also had Ultra Wide SCSI III drives up to 10gig on this chain as well, with no problems (other than running out of drive letters...which can be worked around).

I did have some troubles installing the EasyMint package to the IDE drive at first. These tips should help you find the problem at hand with your LNX/MNX partition.

1. Make sure you are using a compatible EXT2.XFS or MINIX.XFS module to the MiNT kernel you are using. There are indeed a lot of combinations that just don't work together. If you are doing a fresh install, I highly recommend starting from scratch with one of the EasyMint installs, and since you have a TT with an 030 cpu, I recommend using an EXT2 partition and a solid kernel with FPU emulation (unless you have an actual FPU)...this way you can be relatively sure that all of your XFS modules, init locks, temp directories, permissions and so forth are all compatible. Trying to mix installs such as KGMD with newer things, (I.E. from the SpareMint archives) can indeed be a challenge, often futile, even for experienced unix gurus. YES, if you currently use KGMD, TAF, or something else, it IS worth while to start all over with SpareMiNT...as it has much more modern file systems, libraries and kernels...many unix things can now be compiled straight away with no code changes, and there is an ever growing list of rpm packages and updates on the SpareMint server.

If none of this seems to help:

May I recommend that you FIRST check the drive with plain GEM/BGM compatible partitions? There is quite a lot of tiny things that can go wrong when you start working with a minix or ext2 partition for the first time. First get out the HDDriver manual and set up your drive according to the partition sizes you want using either GEM or BGM partitions. DO READ carefully, and make sure that if you tweak sector sizes (I recommend you don't even mess with this...let HDDriver figure it out) that they are indeed compatible with the partition size and type you've set up. HDDriver does a good job of automatically setting this up, but I've seen many users who have changed things by re-partitioning or re-initializing and partition and create a mess (such as trying to force a GEM partition that is too big, or forcing a lgig BGM partition to have a 512 sector size instead of 1024 or larger, etc...).

Once the drive is visible correctly on your desk top, and surely working properly without MiNT...have your ext2 or minix utility initialize the partition you want. It should not touch any other partition(s). Yes, if you really want, you can set up the entire drive as one big ext2 or minix partition, though I highly advise you have at least one small GEM or BGM partition first."

Jim tells Brian:

"Thank you for all the advice. I am trying to install MiNT, and do not yet have a drive u to access. It is a LNX for ext2 partition, and there is one of them. That far I get. I am, at the moment, trying to re-install MiNTnet for dummies, and not doing anything different than the first time, or so I thought. I might be wrong about that.

The results are different than the first time, and the drive mech is different from the first time. I did not have room for a compiler.

And thanks for the note about XFS modules. I will check that, and if there is not one where you suggest there should be one, I will make it so, and make it match.

But I suspect that I have a drive meant for a specific machine, and need to get another one, since this one cannot be made to work. I played with jumpers until it properly initialized, which left only one jumper in place. On the other hand, it does not have any suffix on the model number, so it is more than possible that I made some simple mistake.

I guess I will know that after making sure there is a folder with driver in it, and after making a singleTOS-readable partition.

BTW, EasyMiNT does not work for me. I have only 4.4 megs free on my boot drive, and it needs more than that. Thus, it reads files, tries to re-write them, and fails, lacking room. I need a new, larger internal drive to run EasyMiNT. But I can run MiNTnet for dummies, and add to it.

I will save your advice, print it out and study it. There is a lot of information there."

Brian replies:

"I never had good luck with the ext2 installer with this package. In fact, I never got the package to install on my Falcon unless I opted for minix instead of ext2.

You'll have plenty of space for EasyMint now :)

I do believe your drive is most likely okay. I also had problems with MiNTnet for dummies. Something about the XFS module and MiNT kernel in the kit didn't want to work on my Falcon.

Remember, you do not have to devote an entire hard drive to ext2. Only a single partition...

Yes, do test out the big SCSI drive with regular partition types first. Partition it with HDDriver as BGM type partitions to begin with. When you run the ext2 formatter and give it the corresponding drive letter, it will convert the partition to ext2 without touching any other partitions or drives, and it should also flag the partition type as LNX.

It isn't really necessary for you to buy any new internal drive at this time. You should have space a plenty for most things Atari given that new external drive.

Adding to MiNTnet for dummies isn't as simple as it seems. I honestly think you will save yourself many troubles with this next tip.

1. Using HDDriver, divide your big SCSI drive into two or three BGM partitions.
2. Use the fresh space on the first partition of your external SCSI drive to launch the easymint setup, and have it install the ext2 partition on the last partition.

If you really really need more ext2 space later on, you'll have easymint already installed and can convert that first BGM partition to ext2 as well.

You can also boot from any BGM partition because HDDDriver allows you to press the key letter of the drive you wish to boot from during startup.

I almost forgot...as Uwe pointed to... It's a good idea to keep BGM partitions 512mb or smaller so TOS can also see them. Using HDDDriver to divide the drive into 3 or 4 equal partitions should do the trick, and also give you space for things non-mint as well :) If you want/need more ext2 space, you can always convert more partitions later and use unix links to make it act like one continuous drive. 512meg is quite a healthy amount for an EasyMint install including Xwin11 and MORE"!

Martin Tarenskeen asks about playing 'Real' media:

"Is there a way to play Real Media (*.rm) files on an Atari ?
Or to convert them to a format that can be played ?"

Brian Roland tells Martin:

"I seem to remember a tpt decoder that was released a while back that could, but Real Audio has upped versions (and compression formats) several times since then. I can't seem to find it online...but it's bound to still be out there somewhere.

http://www.dhs.nu/files_msx_players.jsp;jsessionid=NFIDFEBCIHCE
Check out these players...Shoutcast and MP2/3 are definite possibilities...
Though you'd better hurry and get an MP3 player while you still can!
(hopefully the mp3 plugin hasn't already been removed)
http://www.dhs.nu/files_msx_players.jsp;jsessionid=NFIDFEBCIHCE "

Well folks, that's it for this time around. It's short again, but there's really not much going on in the newsgroup right now. Let's hope it picks up for next week. Make sure to tune in again next week, same time, same station, and be ready to listen to what they are saying when...

PEOPLE ARE TALKING

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->In This Week's Gaming Section - Popularity of Playstation 2!
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                                     Scholars Oppose Video Game Law!
                                     And more!
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->A-ONE's Game Console Industry News - The Latest Gaming News!

Just How Popular is PlayStation 2?

Two of the console video gaming industry's biggest companies, Sony Computer Entertainment and Nintendo, both celebrated production milestones over the weekend as the Tokyo Game Show was in full swing.

SCEI, which produces the market-leading PlayStation 2 console, said on Thursday that cumulative shipments of that console reached 40 million units on September 17.

A testament to how popular the console is at present, the announcement meant SCEI has shipped 10 million units since early May this year when it announced cumulative shipments had passed the 30 million mark.

At its present rate, SCEI said the PlayStation 2 is shipping 2.3 times faster than its original PlayStation model. Sony said it has shipped 11 million units in Japan and other Asian markets, 17 million in North America, and 12 million in Europe.

At almost the same time one of Sony's top competitors in the console market, Nintendo, was taking delivery of its 10 millionth Gekko processor from IBM, which manufactures the chip.

The Gekko processor is based on IBM's PowerPC chip and is used at the heart of Nintendo's GameCube console, which was launched first in Japan in September last year.

Sega Signs Original Game Deal with Author Crichton

Author Michael Crichton, best known for science-fiction tales like "The Andromeda Strain" and "Jurassic Park," on Monday said he would work with Japan's Sega Corp. to develop a new video game targeted for release in 2004.

Sega said Crichton will create the property from scratch, working with the company's game developers. No other details of the game were available.

Crichton is best known for his novels as well as creating the hit television medical drama "ER." He made a previous foray into games in 1999, creating Timeline Studios to develop three-dimensional computer games.

The studio produced one game, 2000's "Timeline," based on Crichton's book of the same name.

While it is not uncommon for video games to be based on books, a collaboration between a book author and a game publisher for an original property is new territory for the industry, which has seen more and more of its franchises turned into Hollywood properties over the last year.

Among the games turned into movies over the last few years are titles like "Tomb Raider" and "Resident Evil," while movies based on games like "Crazy Taxi" are currently in the works.

Scholars File Brief Opposing Video Game Law

A group of international scholars on Wednesday filed a brief urging a federal appeals court to strike down a St. Louis ordinance restricting children's access to violent video games, calling the law and other proposals like it "profoundly misguided."

Thirty-three scholars, representing institutions such as the Massachusetts Institute of Technology, the University of California at Los Angeles and London University, filed the brief in the U.S. Court of Appeals for the Eighth Circuit in St. Louis, Missouri.

"Efforts to address real-world violence by censoring entertainment are profoundly misguided," the group said in its brief.

In mid-April, a federal court in Missouri upheld a St. Louis County ordinance requiring parental consent for minors to purchase video games that depict graphic violence.

The Interactive Digital Software Association, an industry trade group, opposed the ordinance, calling it both unnecessary and a violation of free speech rights, and appealed the lower court ruling.

The brief filed by the scholars on Wednesday was organized by the Free Expression Policy Project, a New York-based think tank founded in 2000 that has filed a number of legal briefs in past in court cases opposing laws restricting access to media.

In their brief, the group of scholars, who included social psychologists and media experts, questioned the relationship between media violence and real-life violence.

"Most studies and experiments on video games containing violent content have not found adverse effects," they said. "Researchers who do report positive results have generally relied on small statistical differences and used dubious 'proxies' for aggression, such as recognizing 'aggressive words' on a computer screen.

"Indeed, research on media violence more generally has also failed to prove that it causes -- or is even a 'risk factor' for -- actual violent behavior," the brief said.

The current case is not the first one federal courts have considered covering restrictions on access to games.

St. Louis's ordinance was tentatively enacted one day after a different federal appellate court issued an injunction against an ordinance enacted by the city of Indianapolis restricting access to violent video games in arcades.

In May, a California congressman introduced a bill in the House of Representatives that would make it a federal crime to sell or rent video games showing violence, prostitution or drug use to anyone under the age of 17 without parental consent. The bill has been under committee review since the summer.

Greece Lifts Ban on Electronic Games

Its game on again for Greek computer buffs who had been banned by the government from playing electronic games.

The government, in an effort to curtail illegal gaming, passed a law earlier this year banning the use of electronic games, including popular football and motor racing simulators.

It arrested bar and arcade owners for illegally converting machines to pay out cash instead of bonus playing time.

But on Tuesday night, the Finance Ministry gave the green light for the use of electronic games on condition "no financial benefit" was involved.

"The installation and use of games in homes and residential areas is allowed if there is no financial benefit involved," the ministry said. "The same applies to public and private areas...if again there is no financial gain for the player or any third party."

The ministry issued the clarification after a barrage of complaints from Internet cafe owners and private game console owners who said the recent law was unconstitutional and did not allow the use of equipment that was legally on sale.

Even foreign tourists playing portable battery-operated games were seen breaking the law.

But no more.

"There is no problem for any individual or tourist visiting Greece who plays electronic games such as PlayStation, Gameboy, X-Box etc," the ministry said.

Greece allows gambling only inside a handful of state-licensed casinos.

In the first court case involving the new anti-gaming law, a northern Greek court 10 days ago dismissed charges against two Internet cafe owners, who had been taken to court charged with assisting two customers in online gambling.

The judge claimed the law was unconstitutional. The owners were found innocent and their clients were allowed to continue their online chess game.

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Google to Launch News Search Site

Google, the popular Internet search engine, on Monday launches a new site for searching news from 4,000 English-language sources, from The New York Times to small-town newspapers.

The new service, called Google News, will be accessible through a tab on the Google start page and will pull real-time news from different Web sites around the world. News will be arranged under categories such as world, business, entertainment, technology and sports.

Beginning on Monday, search results from the news site will also be offered at the top of Google's general search page so that users who enter search terms on the main site will also see when that term is mentioned in the news.

Google is not employing any editors to work on the service but will arrange the abundance of news it gathers with the same basic technology it currently uses to rank search results in order of relevance.

The company said its technology will rank news based on how recently it has been published, the number of articles devoted to a given topic and the popularity of the particular news source.

"News is a natural extension of our mission," said Marissa Mayer, product manager at Google.com. She said the company began working on the Google News service in January.

While several Internet content sites offer links to top news sites, the Google service will be more comprehensive than most, if not all of them.

Google is initially offering the news service for free, without any advertising support. It said it plans to see what kind of demand the site generates before it considers possible ways to make money from it.

Cyberattacks Reach All-Time High

Cyberattacks have reached an all-time high this month, digital risk-management company mi2g Ltd. says. The company, which has tracked attacks since 1995, says it has spotted 9,011 overt digital attacks so far this month, a sharp increase from the 5,830 attacks spotted in August and 4,094 in July.

According to the report, Internet domains registered within the United States are under the most fire, with 4,157 successful attacks. That's considerably higher than the 835 attacks against Brazilian domains, 376 against Germany, and 285 against India.

The report says that "rising antagonism across the digital world against the U.S." may be partly to blame for the recent surge. According to mi2g, U.S. government computers for the House of Representatives, Department of Agriculture, Department of Education, National Park Service, and Goddard & Marshall Space Flight Centers were attacked this month.

Many experts say that as tensions in the Middle East escalate and if the United States attacks Iraq, American interests online will become targets

of politically motivated attacks. Palestinian and Israeli hackers have been battling it out online since early 2000, after peace talks collapsed. Shortly after the terrorist attacks last year, some U.S. hacking groups said they would attack Internet domains within Afghanistan and Pakistan, although the number of cyberattacks dropped precipitously after Sept 11, 2001. According to mi2g's report, attacks in September 2001 plummeted to 816 from 2,820 in August 2001. Also in 2001, Chinese hackers threatened to attack and did attack certain U.S. Internet interests following the death of Chinese pilot Wang Wei when his fighter jet collided with a U.S. spy plane.

Canon Shoots for 11 Million Pixels

Canon will bring to market an 11-megapixel single-lens reflex digital still camera for high-end users in November, the company announced Tuesday.

The EOS-1Ds uses a new CMOS (complementary metal oxide semiconductor) image sensor Canon developed, the company says in a statement. CMOS sensors consume one-eighth the power consumed by CCD (charge-coupled device) sensors with a comparable number of pixels, a Canon spokesperson says. CCDs are another type of sensor commonly used for digital still cameras.

Until now, CMOS image sensors, which record photons of light and change them into electric signals, had a maximum size of 6.3 million pixels.

Canon was able to increase the CMOS sensor size by 2.5 to 3 times and make it the same size as a 35-millimeter film frame using a technology that enables accurately etching circuitry on a sensor in three steps. Sensor size had been limited to smaller than the frame size of a 35mm roll of film because the entire circuitry had to be etched at once, a Canon spokesperson says.

The size difference creates apparent changes in focal length when putting a lens for a film camera on a digital still camera, the spokesperson says. This especially hinders professional photographers, he says.

"For example, when a 50-millimeter lens is put on a conventional SLR digital still camera, it becomes the equivalent of about a 60-something-millimeter lens. Although it is not a big difference for low-end users, for professional photographers, image angle differences are fatal," he says.

Canon also added a second channel to read data from the sensor, so although it has 1.8 times more pixels than existing sensors, it can still capture 3 frames per second, just like a digital still camera such as Canon's D-60, the spokesperson says.

The EOS-1Ds, targeted at professional studio photographers, is expected to be in stores in Japan, Europe, and North America toward the end of November for about \$7663. It will be unveiled at the Photokina 2002 photography show in Cologne, Germany, held September 25 to 30.

Sharp's U.K. Lab Develops 3-D Flat Screen

Sharp Corp, Japan's largest maker of liquid crystal displays, said on Friday its researchers in Britain had developed a flat-panel display for either two- or three-dimensional viewing that does not require special glasses. The company added it aimed to set up a consortium including major high-tech firms such as Sony Corp and Microsoft Corp to promote the new technology.

"In the same way that black-and-white TVs switched to color, we really think displays are going to switch to 3-D," Stephen Bold, managing director of Sharp Laboratories of Europe Ltd, said after a news conference.

He expected the displays would initially draw interest largely for use in game machines, but would eventually be used widely in products from PCs to TVs.

Three-dimensional displays that need no special glasses have been around for some time, he said.

But the main challenge was making it possible to switch between the ordinary 2-D mode and 3-D with the push of a button, while providing the same image resolution in the 2-D mode as in a standard display without 3-D capability.

Sharp's Oxford laboratory, which spent 10 years developing the technology, also struggled to keep costs low enough for the price not to scare away consumers.

The company is initially aiming for costs no more than 50 percent above a conventional display, and hopes to bring that down to about 20 percent within a few years, Bold said.

The screens can only be seen in 3-D from certain angles and distances, however, and a "sweet spot indicator" -- a small bar at the lower end of the screen -- appears solid black when the viewer is at an optimum position for 3-D.

Bold said progress in 3-D screens was gaining momentum and in another decade they may be advanced enough for normal viewing by several users at once, without sacrificing image resolution.

Mikio Katayama, general manager of Sharp's mobile LCD group, said volume production of the screens would start within the next few months and the first products using them would hit the market early next year.

Phoenix Web Browser Rises Up

The Mozilla development project, mozilla.org, on Monday released Phoenix 0.1, a speedier version of its open source Web browser.

The Phoenix browser is designed to improve upon Mozilla 1.1, released in August, with additional features such as a new design, customizable toolbar and improved bookmark manager, the open source group, the Mozilla Organization said on its Web site.

Mozilla is an open-source project launched by Netscape Communications, now part of AOL Time Warner, as a way to whip up interest and volunteer involvement in its browser technology. The source code for the Mozilla

project was initially released by Netscape in early 1998.

The Phoenix browser, which uses a large amount of the Mozilla code, is "a lean and fast browser" that loads in nearly half the time of Mozilla 1.1, mozilla.org said. The browser is written using XUL (Extensible User Interface Language), works on Linux and Microsoft's Windows operating systems, and is designed to be cross-platform.

Mozilla.org warned that the Phoenix browser does come with some bugs. For example, the browser doesn't allow users running Linux to tab through forms, the group said.

The Phoenix team is already working on Phoenix 0.2 which will include such features as a replacement for Mozilla's Wallet functionality called Satchel; a mechanism to selectively enable and disable plug-ins, and a download manager that improves on the current Mozilla download manager, mozilla.org said.

Functions to manage user preferences are also "in the middle of a massive overhaul," mozilla.org said.

The core team working on the Phoenix project consists of Dave Hyatt, Blake Ross, Pierre Chanial and Asa Dotzler, with additional support coming for the mozilla.org staff.

The Phoenix browser is now available free for download at the mozilla.org Web site.

MSN 8 Updates Messenger, Broadband

Microsoft is promising customers a new instant messaging client and enhanced support for broadband home networking when it releases its MSN 8 Internet access software in the coming months.

The company has confirmed it will release MSN Messenger 5 at the same time MSN 8 becomes available, which is expected by year-end, Microsoft has said.

MSN Messenger 5 will be available in two versions, one as a standalone product, and a second that integrates features with MSN 8, such as parental controls, said Parul Shah, an MSN product manager.

For example, through MSN 8 "you can control who your children exchange messages with on MSN Messenger," Shah said. Additional features exclusive to MSN 8 users will be announced upon the software's release, she added.

MSN 8 will also feature a new e-mail client that Microsoft described as a combination of its free Hotmail e-mail service and its Outlook Express e-mail software. Users will be able to check their mail from a Web browser, as they can with Hotmail, but will also have access to features that come with Outlook Express, such as more advanced spam filtering, Shah said.

MSN 8 is the upgrade to Microsoft's Internet access software, which allows users to access MSN e-mail accounts, news and entertainment content, and browse the Web. For the first time, Microsoft will charge customers for the Web software if they subscribe to an Internet service provider other than MSN.

With the launch of MSN 8, Microsoft is also ramping up the features and services offered to customers who use broadband instead of dial-up access.

Offering special services for broadband subscribers is becoming a common practice for Microsoft competitors, including Yahoo, which recently unveiled a co-branded high-speed Internet service with SBC Communications, said Dominic Ainscough, an analyst with The Yankee Group, who has tested the MSN 8 software.

"(MSN 8) is definitely feature rich when you have a high-speed connection," Ainscough said. "The functionality on broadband is distinct from what will be available on dial-up."

One added service for MSN broadband subscribers will be free support for setting up and managing home networks, which allow multiple PCs and other devices to be connected to a single broadband line, Microsoft announced Thursday.

More than 30 percent of U.S. homes with Internet access have multiple PCs in the homes, but less than 10 percent of those homes have an active home network, Microsoft said, citing market research.

To spur interest in home networking, Microsoft is offering MSN 8 broadband subscribers 20 percent off the price of its recently announced Microsoft Broadband Networking Wireless Base Station, a home networking product that allows multiple devices to connect to the Internet over a Wi-Fi, or 802.11b, wireless network.

The base station is one of five home networking hardware products Microsoft unveiled last week. It comes with a built-in hardware firewall as well as a set-up wizard that aims to ease the installation process, Microsoft said.

MSN Broadband subscribers who pay the \$39.95 to \$49.95 per month for service will receive free home networking support, whether or not they purchase Microsoft networking hardware.

"We will provide free support for all MSN 8 broadband subscribers despite what hardware they might be using," Shah said. "Obviously, if it's Microsoft hardware we will be able to offer more (thorough) support."

.Mac Subscription Time Nears; Files To Be Purged Oct.1

The time to subscribe to Apple's new .Mac subscription service is quickly drawing to a close. Users that don't subscribe by the September 30 deadline will lose any files, pictures and any other information stored on their iDisk, but usernames will be available indefinitely.

Apple confirmed for MacCentral that on October 1, any former iTools members that haven't switched their free account to the new .Mac paid subscription service would lose any information they have stored for their account. If you sign-up after the deadline you can keep your username, but there will be no way to get your data back.

"As we stated in the initial communication and additional communications over the last 75 days, information that customers have on their .Mac account will be removed if they choose not to sign up for .Mac before the

expiration deadline," Joe Hayashi, Apple's senior director of Application Product Marketing, told MacCentral. "Members who choose not to sign-up for .Mac should not expect to get their information after the deadline. In fact we are planning for the service to be offline starting at 12:30 am for about an hour on the morning of October 1 to complete the transition."

While you will lose any files or information, you will not lose the ability to keep your username. Former iTools usernames will be kept for an indefinite period of time allowing users to sign-up for .Mac for the foreseeable future and keep their email address.

In fact, you can still use your .Mac username as your iChat login even if you haven't paid for the service. You will not have access to email or other features of the service, but you can still monitor and change your iChat password using the .Mac Web site.

"Usernames will be available for reactivation indefinitely," said Hayashi. "After the deadline a customer may choose to sign-up for .Mac and reactivate their .Mac user name if they have their password, but they should not expect to get their data. Usernames will also continue to work for iChat even if a customer decides not to sign up for .Mac. Customers can manage their password for iChat through the .Mac web site."

Apple recently released numbers showing 100,000 people have signed up for the .Mac service. While that number is a small percentage of the estimated 2 million plus iTools users the company had, Hayashi said Apple is happy with adoption rate of .Mac.

"We are very pleased with the response that .Mac has received," said Hayashi. "We are well ahead of our internal projections and we feel that this is one of the fastest ramps in a free to fee transition to date."

The estimated number of iTools users that Apple had may be a bit deceiving itself. Many people had multiple accounts -- some totaling five or six separate iTools usernames. Users in this situation that we spoke with chose to sign-up one of these accounts to a paid subscription, even forgoing the opportunity to sign-up the extra email-only accounts.

When you sign up for a .Mac subscription, Apple will allow you to add up to 10 email-only accounts to a paid subscription. The ten additional .Mac accounts, which cost US\$10 each, get 5MB of storage space with no access to other .Mac services. The option to sign-up additional email addresses is one of the last steps when signing up for .Mac -- you will need to have the username and password of any email address you wish to attach to a paid subscription.

Hayashi also confirmed that educational institutions would not receive a discounted rate for .Mac subscription services. Some teachers had entire classrooms sign-up for iTools accounts to store files and teach students about the Internet and multimedia projects.

If you like to know what is being charged to your credit card before it happens, you should check your .Mac account if you have already signed-up. By default, Apple checks the auto-renewal option in your account options, which will be \$99 plus applicable taxes next year.

Industry analysts see Apple's decision to closely tie the recently released Mac OS X 10.2 operating system to .Mac as a good move. While Apple is adding value to OS X with additional functionality with .Mac, the company is also adding an additional revenue stream.

"Anything they can do to make Mac OS X more appealing is a good business decision -- it's definitely a good strategy," said Toni Duboise, senior analyst with ARS. "There comes a point in time when all PC manufacturers have to protect their bottom line."

The State of Linux in 2002

Sun Microsystems in August joined IBM, Hewlett-Packard and Dell in offering Linux as a server operating system. A month later, IBM expanded its prepackaged Linux server offerings. Even Apple computers can be purchased with Linux preinstalled. Clearly, the Linux bandwagon is gathering speed -- Sun has said it anticipates a 30 percent annual growth rate -- but where is it going?

One thing seems certain: In the future, Red Hat is likely to remain the dominant Linux distributor. As an open source product, Linux is sold by several different companies, but Red Hat controls more than 50 percent of the North American market -- far more than any other vendor, according to Al Gillen, research director for system software at IDC.

IBM, HP and Dell all resell Red Hat's product, and while Sun offers its own flavor of Linux, that variant also builds on the Red Hat distribution, Gillen said.

In addition to Red Hat's close relationship with hardware vendors, buyers also are impressed by the company's financial viability, depth of technical resources and infrastructure, according to Gartner vice president and research director George Weiss. "No one else has their reach," he told NewsFactor.

And the Yankee Group's Laura DiDio told NewsFactor that the economic downturn actually is helping Red Hat maintain its position because an uncertain market makes IT managers more cautious. "The Red Hat name is known, and that helps," she said. "IT shops want to stick with what's tried, true and proven."

Lastly, Red Hat also works closely with independent software vendors, such as Oracle and BEA, to ensure their products' compatibility with its Linux distribution. According to Bill Claybrook, research director at Aberdeen Group, the company is "signing up ISVs very rapidly."

However, while Red Hat will probably retain its lead, it is unlikely to drive other distributions out of the market. Sun's Linux offering has several advantages, according to Gartner's Weiss. For example, Sun can provide single-source support for both hardware and software, and applications written for Solaris can be ported easily to Sun's Linux platform. The "wild card" factor is that the success of Sun's Linux product depends on the company's commitment to it, which is unknown at this point.

United Linux -- an alliance between SuSE, SCO Group, Conectiva and Turbolinux, all of whose sales are largely concentrated outside the United States -- also may remain a niche player in the marketplace, according to analysts. One reason is that companies in this alliance may be more willing than Red Hat to provide localized versions of Linux for different countries. "What's neat about Linux is that you can regionalize it very easily," IDC's Gillen said.

At first glance, it might seem unclear why so many major vendors are jumping on the Linux bandwagon. Linux is sold under an open source license, so it is not by itself a profitable product. Despite this fact, the Linux community is financed and organized largely by such companies as IBM, HP, Dell and Red Hat, according to Claybrook. (The community still includes many unpaid volunteers, but he said they are not making many significant contributions to programming.)

The answer is that tech giants are pouring money into Linux development because when users buy Linux, they also buy hardware, software and services that the companies can sell at a profit. Red Hat, for example, sells support and training, and hardware vendors sell servers.

According to Gartner's Weiss, IBM stands to benefit even more than other hardware vendors because Linux can help it sell not only low-end commodity hardware, but also mainframe computers and enterprise software like its WebSphere suite. "The more you have to sell as collateral, the more opportunity you can exploit," Weiss explained.

He also noted that Linux's strategic importance to IBM accounts for IBM's uncharacteristic embrace of the software well in advance of its maturity. "It's a real turnabout for them," he said.

Another potential beneficiary of Linux is Intel. Claybrook said HP and Dell are working to migrate Oracle database applications from RISC/Unix platforms to Intel/Linux platforms. High-performance computing, grid computing and carrier-grade services also will be good candidates for Unix conversion in the next few years.

"Wherever Unix is strong now, that's where you'll see Linux being strong," Claybrook noted. "The only problem with Linux is that it's not as mature as Unix. But it's being developed much faster than any other operating system -- so many people are working on it with a common goal."

But not everyone agrees that Linux will make significant headway against Unix in the server market. The Yankee Group's DiDio called Unix an "impregnable fortress" and expressed doubt that users would take the chance of replacing it with Linux. No matter how reliable Linux is on low-end servers, she said, "no one wants to be the first" to test it with high-end, mission-critical applications.

Linux also has been relatively slow to infiltrate the desktop market, but for a different reason: It does not help sell profitable products in that space and therefore has attracted less support from large vendors. In addition, an ongoing debate over whether the GNOME or KDE desktop environment would become the dominant Linux GUI (graphical user interface) slowed adoption.

However, Claybrook estimated that with an improved GUI and the arrival of such applications as OpenOffice, Linux's desktop market share could rise to as much as 10 to 12 percent in a few years. Government and educational institutions are the most likely purchasers, he noted.

DiDio agreed that Linux could grow its desktop market share, citing the difficulty that schools and hospitals probably will have in paying Microsoft's new licensing fees. The Yankee Group's recent survey of IT managers found that 37 percent were so annoyed with Microsoft's licensing plan that they were seeking alternative software, such as Corel, StarOffice and Linux.

As 2002 draws to a close, Linux has made significant inroads into the low-end server market, where vendors can reap profits from selling hardware, software and services in conjunction with the OS. Although its success is less assured at the high end of the server sector, the operating system may have a bright future on the desktop. And as new devices enter the marketplace in coming years, who knows where Linux will show up next?

Vendors Spar Over Web Surfing at Work

IT managers who want to control workplace Internet use have a new adversary, a San Diego company that claims to make it possible for employees to surf anonymously.

Anonymizer last month released a new version of its product, Private Surfing 2.0, and coupled it with a bold marketing claim: "Surf at work without being monitored."

Indeed, employees are being encouraged to pay \$29.95 annually to circumvent systems put in place by their IT departments. But the message to surf-happy employees ought to be "buyer beware."

No sooner had Anonymizer begun its marketing campaign than Orange, California-based 8e6 Technologies (a takeoff on the slang expression "eighty-six" meaning "to eliminate") announced a simple library update to thwart Anonymizer. Another security and filtering company, St. Bernard Software in San Diego, said it didn't even have to make changes to thwart Anonymizer's product.

IT managers such as Harold Moscho, director of technology management for 6,000 users at MultiCare Health System in Tacoma, Washington, are nonetheless concerned by the development.

"I hope that it is not something that is very widespread," said Moscho, who's using 8e6's filtering technology. He said he's concerned that Anonymizer may appeal to people "who have a great deal of desire for vengeful or mischievous" behavior.

Users of Private Surfing surf the Internet through Anonymizer's network. They log on through their Web browser and get IP addresses and domain names that can't be traced back to them.

The filtering services are thwarting employees by blocking access to Anonymizer.com. And if the connection is encrypted, 8e6 will time-out or cut off an encrypted link, said Mark Parker, a senior engineer at 8e6.

Anonymizer officials dispute claims that its system can be blocked by these filters; if blocked, the Anonymizer.com domain can make available other IP addresses and domains.

Regardless, firm founder and president Lance Cotrell downplayed the workplace surfing claim. "We're not really pushing the surfing at work." He acknowledged that employers can use a range of tools, such as keystroke monitoring, to track employee Internet use.

Netscape Allies With Lindows

Lindows.com says it has reached a deal with AOL Time Warner to include the Netscape browser, e-mail, and instant messaging software with its low-cost Linux-based operating system.

The deal places the two Microsoft rivals firmly in one camp against the software juggernaut.

Lindows was founded last year and promptly became mired in a copyright infringement suit from Microsoft over the similarity between the Windows and Lindows names. That case is still pending, scheduled to hit the courtroom in April 2003. A judge ruled in May that Lindows could continue to use the name for now.

Meanwhile, the company has staked out its ground as a low-cost alternative to Microsoft's dominant Windows OS. Lindows allows users to run applications designed for Windows, as well as the open-source Linux system.

The company cut a deal with Walmart.com to sell low-priced PCs loaded with the Lindows operating system. Those systems range in price from \$199 to \$599.

Meanwhile, the Netscape browser battles head-to-head with Microsoft's Internet Explorer - a lopsided fight, since with the release of Netscape 7 in August, the browser held only 4.3 percent of the market against IE, which is bundled with all versions of Windows. Also, the AOL Internet service guns against the Microsoft Network (MSN).

The alliance between the two Microsoft competitors will not only provide LindowsOS users with the Netscape products, but will also allow users to access America Online mail and Instant Messenger (AIM) without logging on to AOL.

News of the agreement comes one week after Lindows released an upgrade to its software, LindowsOS version 2. The company said that its engineers worked with AOL Time Warner engineers to customize Netscape 7 for bundling with version 2.

LindowsOS 2 boasts a new graphical user interface, improvements to the e-mail and browser offerings, and bolstered operational features such as laptop power management and battery controls. Also, the company's "Click-N-Run" technology, which loads software programs onto LindowsOS machines, is optimized to perform better over both broadband and dial-up connections, the company says. The update also adds support for more than 800 printers and allows users to configure wireless-Internet cards.

Currently, the LindowsOS is available only to consumers who have purchased a computer with the software already loaded, such as those sold at Walmart.com. However, the software maker has said it wants to offer a lower-priced OS alternative, and is preparing for a general release of its OS later this year.

U.S. consumers are unlikely to see new federal privacy protections this year, but lawmakers said on Tuesday they are still hammering out compromises with an eye on the next legislative session.

With a scant six weeks to go until congressional elections, lawmakers concede that neither a business-friendly bill in the House of Representatives nor a tougher bill in the Senate is likely to become law.

But Congress faced renewed pressure to act as high-tech firms worry that they could face a growing patchwork of conflicting state and local regulations, while civil-liberties advocates fear that government counterterrorism investigations could further erode individual privacy rights.

House lawmakers said they would continue to fine-tune their bill with the hopes of attracting a wider base of support when Congress convenes again next year.

"Hopefully in the next Congress we can enact a measure that will achieve greater consumer-privacy protection," said Virginia Democratic Rep. Rick Boucher.

Florida Republican Rep. Cliff Stearns, whose consumer-protection subcommittee has held seven hearings on the issue, said he would consider scaling back liability protections for businesses who were found to violate consumer privacy.

"My staff and I have several compromises we're working on," Stearns said after a hearing today.

Consumer worries about how businesses handle their Social Security numbers, purchase records and other personal information have prompted lawmakers to introduce dozens of privacy bills over the past year and a half.

Most of these efforts -- including one approved by a Senate committee -- have been fiercely opposed by the business community, which has argued that any restrictions would hurt their bottom line and translate into higher costs for everything from books to home mortgages.

Stearns' bill, by contrast, has won the backing of many industry groups. It would require businesses to reveal how they handle customer information, and allow customers to prevent that information from being shared with others.

Businesses support the bill because it would shield them from consumer lawsuits and would override more stringent state laws.

Many privacy advocates oppose Stearns' bill for the same reason.

"This is a giant immunity bill for the data-surveillance industry," said Marc Rotenberg, executive director of the Electronic Privacy Information Center.

Consumers have more reason to be concerned about how businesses handle their personal data now that the FBI and other law-enforcement agencies are employing commercial data services such as Acxiom Inc. to search for potential terrorists, Rotenberg said.

An Acxiom official said the company only provides identity-verification services to the FBI that use basic information like addresses and Social

Security numbers.

The company does not sell consumer data like purchasing habits to the FBI or other government agencies, said Jennifer Barrett, chief privacy officer for the Little Rock, Arkansas, company.

"We do not believe that law enforcement should have unfettered access to all sorts of commercial information, nor do we participate in such practices," Barrett said.

Lawmaker Defends Online Piracy Bill

A California congressman on Thursday defended his proposal to give the entertainment industry new powers to disrupt downloads of pirated music and movies.

But Rep. Howard L. Berman indicated he might rewrite part of the bill to more plainly outlaw hacker-style attacks by the industry on Internet users.

Berman's anti-piracy bill has emerged as one of the most controversial policy debates in Washington affecting the Internet and technology industry. Berman, whose district includes Hollywood, introduced the bill in late July.

The ranking Democrat on the House Judiciary panel on the Internet and intellectual property, Berman complained at a hearing Thursday of "truly outrageous press attacks" over his proposal.

The subcommittee's chairman, Rep. Howard Coble, R-N.C., who co-sponsored the bill with Berman and two others, added that he "never received so much notoriety for a bill I didn't introduce."

Critics have charged that the bill would permit Hollywood to act like hackers. It would lift civil and criminal penalties against entertainment companies for "disabling, interfering with, blocking, diverting or otherwise impairing" the trading of pirated songs and movies on the Internet.

Broad attacks affecting Internet users would not be permitted "except as may be reasonably necessary" to prevent copyright violations. Copyright owners would be required to explain in advance to the Justice Department the methods they intend to use against pirates, although the bill doesn't require approval from Justice officials.

Berman argued that property owners can trespass to recover stolen items, so entertainment companies shouldn't be prohibited from thwarting Internet piracy. But he said he might have to rewrite a section of the bill to make it clear that a hacker-style attack that deliberately shuts down a person's Internet connection would not be protected under his bill as reasonably necessary.

"No judge or disinterested party would read it that way," Berman said. "Some folks have raised concerns about this provision, and we're thinking about alternative language that would resolve their concerns."

Randy Saaf of MediaDefender Inc., a secretive Los Angeles company that builds technology to disrupt music downloads, told lawmakers Thursday that

some tactics his software can use are legally questionable under U.S. computer crime laws. One such technique, called "interdiction," deliberately downloads pirated material very slowly so that other users can't.

"We don't want MediaDefender's self-help technology to be illegal due to hacking laws that were never meant to address (file-sharing) networks," said Saaf, the company's president.

Some Democratic lawmakers complained that Berman's bill could make it too easy for the entertainment industry to mistakenly target innocent Internet users. Rep. Rick Boucher of Virginia cited a threatening letter to an Internet provider from Warner Bros., which demanded that a particular subscriber be disconnected for illegally sharing the movie "Harry Potter and the Sorcerer's Stone."

But the computer file identified by Warner Bros. in its letter indicated that it wasn't the "Harry Potter" movie but a child's written book report.

Because it was introduced so late in the legislative session, Berman's bill has almost no possibility of passage before Congress adjourns next month. But some lawmakers threatened to reconsider the measure next year unless the entertainment and technology industries can agree on their own anti-piracy solutions.

New Kazaa Could Ignite More Controversy

The owner of the widely used Kazaa file-swapping software, Sharman Networks, has launched a significantly expanded version of its controversial P2P (peer-to-peer) application. Additionally, the company has signed an agreement with a European Internet service provider that will actively promote Kazaa.

Users have downloaded the previous version of Kazaa about 119 million times, according to Sharman. The program enables users to download digital media files of all kinds from the hard drives of other Kazaa users. Billions of audio, video and other files have been downloaded by users scattered around the world.

The new version includes a search tool that allows users to search for ordinary Web pages. P2P industry observers noted that this utility could mean Web surfers will spend more time using Kazaa. In conjunction with the launch of this feature, Sharman Networks will begin selling keywords to Web merchants and others who want to promote their goods and services by displaying them prominently in Web search results.

The new Kazaa also includes a playlist tool that enables users to download entire albums as easily as they previously downloaded single songs.

In addition, a new file rating feature responds to the many corrupted or falsely labeled files that exist on file-swapping networks. The tool lets users rate any given file so that falsely labeled files acquire a low rating that warns users away from them. The new program also has a default setting called "filter bogus music and video files."

Sharman also announced it has signed an agreement with Italian ISP Tiscali that calls for Sharman to advertise Tiscali's services to Kazaa's millions

of users. Tiscali will pay Sharman a fee for each Kazaa user who signs up for the ISP's services.

Industry observers noted that this type of cooperative venture is a first in the nascent P2P industry. For Sharman, a company in an industry whose legality continues to be challenged, an agreement with a traditional company may lend it new legitimacy.

But clouds are looming on the horizon. The Recording Industry Association of America (RIAA) has filed suit against Kazaa, contending that the program infringes on the copyright of artists and record labels.

In an announcement that accompanied the new version's launch, Sharman stated that it does not condone actions that breach copyrights. The company also said it is Kazaa users' responsibility to obey applicable copyright laws. The company's court date is December 2nd.

Though this new version offers file swappers more functionality, Yankee Group analyst Ryan Jones expressed doubts about whether Kazaa will be in business over the long term.

"We're expecting by about 2006 that a number of forces will come together to make illegitimate file-swapping services less user-friendly," he told NewsFactor. Those forces will include more lawsuits as well as industry pressure on ISPs to combat copyright-infringing file swapping.

"At the same time, you'll see the legitimate services honing their model further and becoming more user-friendly," he said, noting that this strategy shift will turn the tide in favor of legitimate services.

Ryan added that he does not expect Kazaa to survive this shift in the P2P industry, unless the program's name recognition makes it an attractive acquisition target for a legitimate downloading service.

How Much Computing Power Does It Really Take?

It seems that every time chipmakers improve the clock speed and performance of microprocessors, analysts say those new chips pack more power than the typical user needs. In their view, two- or three-year-old computers can run office productivity applications and can access the Web as rapidly as a user's Internet connection permits.

For example, IDC analyst Alan Promisel told NewsFactor that even though new processor speeds are crossing the 3 GHz mark, users who run only basic office applications do not need that much processing power. "The low-end [Intel] Celerons are more than sufficient to your basic computing," he said, adding that 128 MB of RAM, a 10 to 20 GB hard drive, and integrated or shared graphics memory are enough for most home users.

Forrester research director Carl Howe agreed, telling NewsFactor that processors running at 500 MHz to 750 MHz -- only a fraction of the newest chip speeds -- are sufficient for running typical applications. "They do just fine with a modem, and a lot of them do well even with broadband," he said.

In fact, Howe added that regardless of processor speed or other factors, Internet connection quality is "a really important throttle" that often

dictates the speed of computing. And a 56k modem on a used computer is no different than one on a new computer.

Armed with this information, potential buyers may be ready to scout the local classified section or online sources in search of a used computer. But although pursuing this strategy two years ago might have saved buyers US\$300 or more, things have changed.

Now, even though most consumers do not need the unbridled power of a screamingly fast PC, they may not save much money by purchasing an older machine. The prices of new desktop and notebook computers have dropped so dramatically that analysts said it now makes sense to buy new and reap the benefits of warranty and support.

"By and large, the prices aren't a lot different," Howe noted. "So unless you get a really good deal, it's not worth it."

Promisel added that unlike automobiles, which can run for 10 years or longer, computers have a lifespan of only three to four years. "I think it's more risky than buying a used car because of the life cycles of PCs," he said. "It's uncommon to find a used PC out there with nothing wrong."

In addition, some popular computer activities, particularly CD burning and video editing, tend to get bogged down on older machines.

"With video editing, even the latest and greatest is barely enough," Howe explained, "simply because of the demands put on the processor with video editing. That's a place where faster processors are important."

While buying a new PC may be the best course of action in today's market, it is still important for a user to keep in mind his or her needs. A top-of-the-line chip, huge hard drive and mega memory may seem like a great deal, but if they will never be fully utilized, a less-loaded but lower-priced PC may be a better value.

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